

Technical Processes used to Develop Colorado School Grades for Alternative Education Campuses

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This memo describes the technical processes used to assign Colorado School Grades to Alternative Education Campuses (AECs). The AEC grading process builds on processes used to grade traditional schools, which are described in a companion December 1, 2011 paper titled “Technical Processes Used to Develop the Colorado School Grades.” These two papers should be read together for a complete understanding of the grading process.

Background

AECs have a specialized mission and serve either a special-needs or at-risk populations, where more than 95% of students either have an Individualized Education Program or meet the definition of a “high-risk” student. Schools apply for the AEC designation by the Colorado Department of Education. In 2011, CDE devised a School Performance Framework (SPF) to be applied to AECs as part of their accountability system. Detailed information on AECs and their SPFs can be found at:

<http://www.cde.state.co.us/Accountability/StateAccountabilityAECs.asp>

As with the traditional schools, Colorado School Grades uses the data from the AEC SPF to calculate grades for AEC schools. The CDE description of the AEC SPF includes the following paragraph:

The Colorado AEC SPF evaluates schools on academic achievement, academic growth, postsecondary and workforce readiness, and student engagement (rather than academic growth gaps as in the traditional SPF). Within these performance indicators, AECs are accountable for many of the same measures and metrics as traditional schools are, but the cut-points have been adjusted for AECs. In addition, the AEC SPF allows for districts to submit supplemental measures to be included, if approved by the Department. Finally, districts may also choose to submit their own district-wide school performance framework for AECs, permitted it meets the minimum state requirements and is approved by the Department.¹

Schools are rated on each performance indicator using a series of metrics (examples are shown in Table 1 below). Each metric receives one of four ratings ranging from “Does not meet AEC Norms” to “Exceeds AEC Norms” based on cut points determined by CDE. Points are assigned for each metric

¹ Page 2 of *Accountability for Alternative Education Campuses, Policy Guidance* Updated May 2012 located at: <http://www.cde.state.co.us/Accountability/Downloads/AECPolicyGuidance.pdf>

ranging from one point for “Does Not Meet AEC Norms” to four points for “Exceeds AEC Norms”. These points are totaled and used to determine the rating a school receives on a given indicator and overall.

The state has several required metrics for each indicator. For example, the AEC academic achievement indicator requires that schools are rated based on their TCAP scores in reading, writing, mathematics and science. This is the same as traditional schools. However, AECs can use additional metrics from other assessments such as the NWEA MAPS assessments. This is a crucial difference between the AEC and traditional school SPF.

Each indicator has a different weight or importance in the overall rating as shown below in Table 1. For example, the points from the Academic Achievement metrics are weighted so they count as 15% of the final rating in high schools.

Table 1: Performance Indicators, Weights and State-Required Metrics²

Performance Indicator	Weight		State-Required Metrics
	Elm/Middle	High School	
Academic Achievement	20%	15%	<ul style="list-style-type: none"> CSAP/TCAP (statewide assessment) % of students proficient in Reading, Math, Writing, Science
Academic Growth	50%	35%	<ul style="list-style-type: none"> CSAP/TCAP (statewide assessment) median growth percentiles in Reading, Math, Writing
Postsecondary and Workforce Readiness		30%	<ul style="list-style-type: none"> Completion rate Dropout rate Average composite Colorado ACT score
Student Engagement	30%	20%	<ul style="list-style-type: none"> Attendance rate Truancy rate

A second crucial difference between the AEC and traditional SPF is that a higher proportion of AECs have missing data for metrics, indicators and overall ratings. There are several possible reasons for missing data on the SPF. Often AECs are small and do not have the necessary number of students to protect student privacy (sometimes called the minimum N). Another potential reason for missing data is that AECs have only recently begun to collect and maintain the records needed for these metrics. As AEC data systems mature, information on more measures should become available. Finally, many AECs serve transient populations which may not allow for the long-term data collection needed to assign student progress to a school.

² Taken from *Accountability for Alternative Education Campuses, Policy Guidance* Updated May 2012, Colorado Department of Education located at:
<http://www.cde.state.co.us/Accountability/Downloads/AECPolicyGuidance.pdf>

Colorado School Grades

Colorado School Grades assigns an overall grade for each AEC as well as grades for two of the four indicators. The process for assigning the overall grade is different than the process used to assign the indicator grades.

As with the traditional schools, the overall Colorado School Grade is derived from final weighted total percent of points earned by each school. This measure is calculated by CDE. It uses the total weighted points earned and divides that into the total weighted points eligible. Weighted points are used with AEC campuses because they can have many and different measures for each indicator. The weighting ensures that the final school rating maintains the relative importance of each indicator as shown in Table 1.

The overall Colorado School Grade for each school is calculated by first assigning a percentile ranking to all of the AECs based on their total weighted percent of points earned. Then schools are graded based on the grading curve shown in Table 2 below. This is the same process and grading curve used for traditional schools.

Table 2: Grading Curve Used in Colorado School Grades

Percentile Rank	Grade
98 to 100	A+
92 to 98	A
90 to 92	A-
85 to 90	B+
70 to 85	B
65 to 70	B-
55 to 65	C+
25 to 55	C
15 to 25	C-
13 to 15	D+
7 to 13	D
5 to 7	D-
5 and below	F

Grades for each of the indicators are direct translations of CDE indicators to grades. The state indicators were used because of the large variation in metrics selected by the AECs. Colorado School Grades, in consultation with technical experts, decided this direct translation of the state indicators was the most valid method of grading AECs, and this method highlighted the highest and lowest performing schools, while recognizing that most will fall somewhere in the middle. This translation was done using the conversion matrix show in Table 3.

Table 3: Conversion Matrix used to Translate SPF Indicator Ratings to Colorado School Grades

SPF Rating	Grade
Exceeds AEC Norms	A
Meets AEC Norms	B
Approaching AEC Norms	C
Does not Meet AEC Norms	F

Which AECs Received Grades?

AECs have a wide range of missing data and indicators. Grades for indicators are provided for the Achievement and Growth indicators to match the grading scheme used for traditional schools.

Not all AECs are given a final grade. During the calculation of the traditional school grades it became apparent that schools with missing data are more likely to either have high grades or low grades. This indicated that it was a challenge to validity of the grades to rate schools with missing data. However, because AECs have multiple measures and are more likely to be missing data, excluding schools for missing data significantly reduces the number of schools that can be graded. The decision rule created for AEC grading works to balance the need for information and the validity of grades: overall grades were only assigned to schools that have a rating for three of the four AEC indicators.

Companion Data

The Colorado School Grades also include additional data to describe high schools. Several descriptors are taken from AEC SPF metrics³:

- Four-year graduation rate: percentage of students who entered the school after 8th grade that graduate within four years, accounting for transfers in and out of the school. This data is also provided for traditional schools in their Colorado School Grades.
- Dropout rate: annual percentage of all students who are enrolled in grades 7-12 who leave school during a single school year without subsequently attending another school or educational program
- Truancy Rate: the total number of full or partial days that students were absent without an excuse out of the total possible days attended for the most recent three years. This measure is aggregated across all students within a school.

³ Definitions are taken from the CDE Document *Accountability for Alternative Education Campuses, Policy Guidance* Updated May 2012 located at: <http://www.cde.state.co.us/Accountability/Downloads/AECPolicyGuidance.pdf> and the *Calculation Guidance for Alternative Education Campus Measures*, dated June 11, 2012 located at: <http://www.cde.state.co.us/Accountability/Downloads/CalculationGuidanceForAECMeasures.pdf>. Both were downloaded on December 4, 2012.

- Average daily attendance (ADA) rate: is the total number of full or partial days attended out of the total possible days attended for the most recent three years. This measure is aggregated across all students within a school.

Two other measures are provided for AEC and traditional high schools from other data sources. The school report card provides information on whether the average graduate is prepared for college based on the Colorado ACT scores. This data is taken from the CDE web site.

The ACT indicates whether or not the average student is college or career ready in a particular subject. The ACT has set benchmarks scores that represent the level of achievement required for students to have a 50 percent chance of obtaining a B or higher, or about a 75 percent chance of obtaining a C or higher in corresponding credit-bearing first-year college courses. The ACT College Readiness Benchmarks are shown in Table 7.

Table 4: Cut Points Used for College and Career Ready Indicators by Subject

Colorado ACT Subject-Area Test	ACT Benchmark Score
English	18
Reading	21
Mathematics	22
Science	24

The report card also contains information on school remediation rates. This data is produced by and downloaded from the Colorado Department of Higher Education. Remediation rates are for students who graduate from Colorado high schools and are required to take remedial coursework. Eligibility for remedial courses is general determined by assessment scores.